



## PCT

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference A 54 622 PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/008321	International filing date (day/month/year) 26 July 2003 (26.07.2003)	Priority date (day/month/year) 02 August 2002 (02.08.2002)
International Patent Classification (IPC) or national classification and IPC B23B 51/04		
Applicant KOMET GROUP HOLDING GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 06 February 2004 (06.02.2004)	Date of completion of this report 12 October 2004 (12.10.2004)
Name and mailing address of the IPEA/EP Facsimile No.	Authorized officer Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/EP2003/008321

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
pages \_\_\_\_\_ 1-7 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_ 1-13 \_\_\_\_\_, filed with the letter of \_\_\_\_\_ 29 July 2004 (29.07.2004)
- ☒ the drawings:  
pages \_\_\_\_\_ 1-3-3/3 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/EP 03/08321

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims	1-13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

## 2. Citations and explanations

Reference is made to the following documents:

D1: US-A-5 800 100 (KRENZER ULRICH) 1 September 1998  
(1998-09-01)

D3: US-A-5 947 650 (SATRAN AMIR ET AL.) 7 September  
1999 (1999-09-07)

## Claim 1

D1 discloses a drill bit for machine tools, said drill bit having a bit body (21) and two inserts (1, 1'), which inserts are disposed in a radially spaced-apart manner in an insert seat of the bit body in the region of a chip flute (36) and project axially with their end-face main blades (4) beyond the bit body and mutually overlap radially in their areas of action, the radially outer insert (1) projecting with its outer insert corner and its adjoining secondary blade (20) beyond the bit body (fig. 6, 8), and the secondary blade being inclined along its length from the insert corner towards the bit body at a defined setup angle (fig. 12, 13, 16), wherein the end-face main blade (10) of the outer insert (1) is divided along its length into a radially inner working portion (10) and a outwardly adjoining further portion (14) which extends to the outer insert corner. The

working portion and the adjoining further portion form an angle of between  $135^{\circ}$  and  $165^{\circ}$  in this case (column 3, lines 52 to 55).

The subject matter of claim 1 differs from a drill bit as defined in D1 in that the working portion and the adjoining scalping portion form an angle of  $95^{\circ}$  to  $110^{\circ}$  to each other. The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

The problem is that of improving the machining of workpieces made from ductile material, and especially of making it possible for them to be drilled through without leaving burrs.

The solution to this problem as proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)) for the following reasons:

D3 discloses an insert for a milling cutter where the radially inner first portion (17) and the outwardly adjoining second portion (20) form an angle of  $120^{\circ}$  (converted as per the present application; D3 mentions the complementary angle of  $60^{\circ}$ ; column 6, line 40). The D3 tool is preferably used with soft materials (column 1, lines 4 to 8). However, to a person skilled in the art it does not appear obvious to select the angle between the first portion and second portion from the range  $95^{\circ}$  to  $110^{\circ}$  in order to achieve a scalping effect (division into fine edge chips in the vicinity of the diameter region). A scalping effect is not achieved with an angle of  $120^{\circ}$ .

An angle range of  $95^{\circ}$  to  $110^{\circ}$  between the working portion and an adjoining further portion which then acts as a scalping portion is not known from the available prior

art.

Claim 9

Claim 9 defines an insert of the design claimed in claim 1 and is likewise considered novel and inventive for the reasons given above.

Claims 2 to 8 and 10 to 13

Claims 2 to 8 and 10 to 13 are dependent on claim 1 and claim 9 respectively and therefore likewise satisfy the PCT novelty and inventive step requirements.